

contacts and a first tab on the adjacent inside edge of each of the plurality of pliant membranes.

6. The contact structure of claim 5 wherein the second interlocking features include a second notch located circumferentially around the inside edge of each passage and a second tab on the outside edge of each of the plurality of pliant membranes.

7. The contact structure of claim 6 wherein the frame is formed using one of a liquid crystal polymer (LCP), glass-filled nylon, aluminum, or ceramic.

8. The contact structure of claim 6 wherein the plurality of pliant membranes are formed of silicone or rubber.

9. The contact structure of claim 6 wherein the plurality of pliant membranes are nonconductive.

10. The contact structure of claim 6 wherein the contacts are formed of copper, a copper-nickel alloy, or stainless steel.

11. The contact structure of claim 6 wherein the top surfaces of the contacts are circular, oval, or square.

12. The contact structure of claim 1 further comprising a plurality of compliant conductive paths, each from one of the plurality of contacts to a board.

13. The contact structure of claim 12 wherein each of the plurality of compliant conductive paths are a wire, spring, or spring-loaded contact.

14. The contact structure of claim 1 wherein the frame is part of a device enclosure for an electronic device housing the contact structure.

15. An electronic device comprising:

a housing, the housing having an opening, the opening having an inside edge; and

a contact structure located in the opening in the housing and comprising:

a frame having an outside edge and further having a plurality of passages from a top of the frame to a bottom of the frame, each passage having an inside edge;

a plurality of contacts, each contact having a top surface, a bottom surface, and an outside edge, and located in one or the plurality of passages; and

a plurality of first pliant membranes, each between an outside edge of one of the plurality of contacts and an inside edge of a passage such that at least a portion of a top surface and at least a portion of a bottom surface of the contact are exposed,

wherein the outside edge of each of the plurality of contacts and adjacent inside edges of the plurality of first pliant membranes each comprise interlocking features that interlock to secure the plurality of contacts in place in the plurality of first pliant membranes.

16. The electronic device of claim 15 wherein the frame is nonconductive.

17. The electronic device of claim 15 further comprising an insert molded membrane between the inside edge of the opening in the housing and the outside edge of the frame.

18. The electronic device of claim 15 further comprising a second pliant membrane between the inside edge of the opening in the housing and the outside edge of the frame.

19. The electronic device of claim 15 wherein the interlocking feature on the outside edge of each of the plurality of contacts comprises a first notch located circumferentially around the contact.

20. The electronic device of claim 19 wherein the interlocking feature on the adjacent inside edge of each of the plurality of first pliant membranes includes a first tab to fit in the first notch in the outside edge of each contact.

21. The electronic device of claim 20 wherein the inside edge of each passage includes a second notch and each first pliant membrane has a second tab to fit in the second notch in the inside edge of each passage.

22. The electronic device of claim 21 wherein the inside edge of the opening in the housing and the outside edge of the frame include interlocking features to secure the frame in place in the housing.

23. A contact structure comprising:

a frame having a plurality of passages from a top of the frame to a bottom of the frame, each passage having an inside edge;

a plurality of contacts, each contact having a top surface, a bottom surface, and an outside edge and located in one or the plurality of passages; and

a plurality of pliant membranes, each between an outside edge of one of the plurality of contacts and an inside edge of a passage such that at least a portion of a top surface and at least a portion of a bottom surface of the contact are exposed,

wherein the outside edge of each of the plurality of contacts and adjacent inside edges of the plurality of pliant membranes comprise interlocking features that interlock to prevent the plurality of contacts from being pushed out of the plurality of pliant membranes.

24. The contact structure of claim 23 wherein a top surface of each of the plurality of contacts is circular.

25. The contact structure of claim 23 wherein the frame is nonconductive.

26. The contact structure of claim 23 wherein the interlocking feature on the outside edge of each of the plurality of contacts comprises a first notch located circumferentially around the contact.

27. The contact structure of claim 26 wherein the interlocking feature on the adjacent inside edge of each of the plurality of pliant membranes includes a first tab to fit in the first notch in the outside edge of each contact.

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